



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/751,138

12/30/2003

Heung-Yong Ha

9717.24US01

1780

23552 7590 04/16/2008  
MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER

CHEN, BRET P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

04/16/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/751,138	<b>Applicant(s)</b> HA ET AL.	
	<b>Examiner</b> Bret Chen	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-23 is/are pending in the application.
- 4a) Of the above claim(s) 15, 16 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 13, 14 and 17 is/are rejected.
- 7) ☒ Claim(s) 2, 4, 5, 7-12 and 19-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 1-5, 7-23 are pending in this application. Amended claims 1-5, 8-14, 17 and canceled claim 6 are noted.

The amendment dated 1/4/08 has been entered and carefully considered. The examiner appreciates the amendments to the specification and claims. In view of said amendments, the objection to the abstract and the 112 rejection have been withdrawn.

Claims 15-16, 18 have been withdrawn from consideration as being directed to a nonelected invention.

During a subsequent search, prior art was found which have been incorporated into an art rejection. Hence, the indication of allowable subject matter has been withdrawn. The examiner regrets the inconvenience.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 1, 3, 13-14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Datta et al. (5,558,957).** Datta discloses a method for making a flexible primary battery suitable for SSPD applications (abstract) in which metal foils are formed on a polymeric sheet and subsequently etched to form a specific thickness (col.2 lines 6-15). In one embodiment, the polymeric sheet can be a flexible lithium salt-doped polymeric electrolyte membrane and the metal film can be a flexible foil cathode (col.2 lines 16-27). Figure 1 shows a polymer

Art Unit: 1792

electrolyte membrane 16 and a lithium foil anode 14 and a foil cathode 18 on top (col.3 lines 4-30). The membrane can contain fluorine such as lithium tetrafluoroborate (LiBF<sub>4</sub>) (col.4 lines 1-12) and the thickness of the film can be less than 50 micrometers (col.2 lines 6-15).

However, the reference fails to specifically teach the use of the membrane in a fuel cell.

It is noted that the reference above clearly teaches using the membrane for batteries. One skilled in the art would know that fuel cells generally differ from that of batteries as to the type of moving ions. For fuel cells, generally, hydrogen and oxygen move while in batteries, most any kind of ions would work. But the membranes themselves can be the same material for either fuel cells or batteries. It would have been obvious to utilize Datta's process in fuel cells with the expectation of obtaining similar results.

The limitations of claims 3, 13-14, 17 have been addressed above.

### ***Allowable Subject Matter***

Claims 2, 4-5, 7-12, 19-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art references do not teach the appropriate thin film material or the appropriate deposition technique.

### ***Response to Arguments***

Applicant's arguments with respect to claims above have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1792

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bret Chen whose telephone number is (571)272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bret Chen/

Primary Examiner, Art Unit 1792

4/11/08